

The possible uses for the Edulogger-sensors

Subject = Physics

| Edulogger - Sensor | Cat. code | What apparatus can sensor be used in conjunction with or enhance? | Possible Experiments | Level |
|--------------------|-----------|---|---|------------------------|
| Voltage | 900-201 | All electrical circuitry apparatus (pp.186-190); Faraday's Law apparatus (194); Demonstration motor AC/DC (200); LeXsolar experiment system (46); Demountable transformer (199) | Measure the voltages at different parts of an electrical circuit; measure resistance using Ohm's law; Show the induced voltage when magnet moves a coil; Demonstrate the voltage obtained from an AC and DC dynamo; | KS4, KS4 and KS5 |
| Temperature | 900-203 | Basic apparatus; Calorimeters on p223 | Investigate insulating properties of various materials; finding the specific heat capacity of various metals; Radiation experiments with comparometer | KS3, KS4 and KS5 |
| Force | 900-211 | Dynamics system (208); Dynamics trolleys and track p207/208; In conjunction with light gates and motion sensor; Linear air track (206) | Measure the force when a vehicle rolls down a slope; Investigate crumple zones on car bumpers. Simple harmonic motion of a vibrating spring. | KS3, KS4 and KS5 |
| Current | 900-202 | All electrical circuitry apparatus (pp.186-190); Induced current apparatus (195) | Measure the voltages at different parts of an electrical circuit; measure resistance using Ohm's law; | KS3, KS4 and KS5 |
| Light Gate | 900-209 | Dynamics system (208); Dynamics trolleys and track p207/208; Linear air track (206) | Measure acceleration; velocity; prove conservation of momentum; Measure acceleration due to gravity. | KS3, KS4 and KS5 |
| Light | 900-204 | Rayboxes (p227)Light and optics kits; prisms and lenses (229-232); | Measure light intensity from various sources; Laws of reflection; inverse square law | KS3, KS4 and KS5 |
| Pressure | 900-210 | Basic apparatus plus temperature sensor | Pressure determinations; Verification of Boyle's Law and Pressure Law; Rates of reaction where | KS3, KS4 and |

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| | | | there are changes in gas volume | KS5 |
| Sound | 900-212 | Basic apparatus; tuning forks (259-260); resonance apparatus (260); Doppler Ball (259); Sound energy kit | Show the sound waves generated by a vibrating tuning fork; inverse square law; The frequency of a source and the wavelength of the sound produced; the speed of sound in air. | KS3, KS4 and KS5 |
| Motion | 900-223 | Dynamics system (208); Dynamics trolleys and track p207/208; In conjunction with light gates and motion sensor; Linear air track (206); Extension springs (217) and masses (242) | Distance-time and velocity-time graphs; simple harmonic motion (vibrating spring). | KS3, KS4 and KS5 |
| Magnetic field | 900-224 | The products dealing with magnetism from p235-239; | Plot magnetic field around magnets of various types and sizes; Effect of current on strength of magnetic field; | KS3, KS4 and KS5 |
| Force plate | 900-235 | Newton masses; basic apparatus | Verify Newton's Law of Motion. Any experiment where high levels of force (-80 to +300kg) need to be measured. | KS4 and KS5 |
| Acceleration | 900-237 | Dynamics system (208); Dynamics trolleys and track p207/208; In conjunction with light gates and motion sensor; Extension springs (217) and masses (242); Doppler Ball | Newton's Laws of motion; Velocity-time graphs; simple harmonic motion of a vibrating spring. Acceleration on all 3 Axis's | KS4 and KS5 |
| Infrared thermometer | 900-245 | Radiation experiments e.g. with the Leslie cube to measure radiation emitted by different surfaces; | Radiation experiments | |
| Magnetic field | 900-224 | Magnets and electromagnets; magnetic field apparatus | Any experiment involving the plotting of a magnetic field or the measurement of the intensity of a magnetic field | KS3; KS4 and KS5 |
| Charge | 900-263 | Van de Graaff; gold leaf electroscope; | Measure the charge produced by friction or by | KS5 |

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| | | electrostatics kit | induction; | |
| Surface temperature | 900-243 | Along with IR sensor; any radiation apparatus | Compare the radiation emitted from a surface with its actual surface temperature. | KS3; KS4 and KS5 |
| Wide range temperature | 900-244 | Thermocouples along with voltage sensor | Measure the voltage obtained from thermocouple under different temperature ranges. Heat of a flame. Any experiments where extremes of temperature can be measured. | KS3 and KS5 |
| Geiger | 900-264 | Radioactive sources. | Measurement of Radiation | KS5 |
| Rotary Motion | 900-236 | | Measure Rads, Revs and Angles and can be used as a Pendulum sensor too. | KS4/5 |